

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* NICHOLAS JAMES NISSING

---

Appeal 2006-1310  
Application 10/657,320  
Technology Center 1700

---

Decided: September 29, 2006

---

Before GARRIS, PAK, and TIMM, *Administrative Patent Judges*.  
PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the Examiner's final rejection of claims 1 through 15, which are all of the claims pending in the above-identified application. We have jurisdiction pursuant to 35 U.S.C. § 134.

I. APPEALED SUBJECT MATTER

The subject matter on appeal is directed to “a printed substrate which exhibits local variations in color density of given color within one or more printed areas of the substrate.” (*See* Specification 1.) These local variations

in color density are used to enhance aesthetics of paper products. (*See* Specification 1 and 3.) Details of the appealed subject matter are recited in claims 1, 4, 5, 7, 8, 9, and 13<sup>1</sup>, which are reproduced below:

1. A printed substrate having microscope color density variation, said printed substrate comprising: a substrate having a first outer surface and a second outer surface opposed thereto, whereby at least one of said first or said second outer surface includes indicia, said indicia comprised of print elements and wherein said substrate includes a substrate color density, a background color density, and a print element color density wherein said background color density is greater than said substrate color density and less than said print element color density.
4. The printed substrate of Claim 1 wherein said substrate is textured.
5. A printed disposable paper product, said printed disposable paper product comprising: a substrate having a first outer surface and a second outer surface opposed thereto, whereby at least one of said first or said second outer surface includes ink applied thereto, said ink comprised of at least two solid print regions and wherein the color density ratio between the at least two solid print regions is at least about 1.15.
7. The printed disposable paper product of Claim 5 wherein said substrate is textured.
8. A printed disposable paper product, said printed disposable paper product comprising:  
  
a substrate having a first outer surface and a second outer surface opposed thereto, whereby at least one of said first or said second outer surface includes ink applied thereto, said ink comprised of at

---

<sup>1</sup> The Appellant's arguments are limited to claims 1, 4, 5, 7, 8, 9, and 13. (*See* Br. 5-13.) Therefore, for purposes of this appeal, we limit our discussion to these claims consistent with 37 C.F.R. § 41.37(c)(1)(vii) (2004).

least two print regions said two print regions exhibiting the same color and the same color density and wherein the two print regions have a rub-off ratio greater than 1.1.

9. The printed disposable paper product of Claim 8 wherein said substrate is textured.
13. The printed disposable paper product of Claim 8 wherein said ink comprises a pigment.

According to pages 5 and 6 of the Specification:

As used herein “printed element color density” refers to the color density of each individual print element within the image area of the printed substrate.

...

As used herein, “substrate color density”, [sic.] refers to **the color density of the unprinted areas of substrate**. A non-limiting example which illustrates this definition would be a paper product printed by the flexographic printing process. For a paper product printed by the flexographic printing process, substrate color density would refer to the areas of the printed paper product which do not comprise an image area (i.e.; the unprinted areas of the paper product).

As used herein “background color density” refers to the color density surrounding each individual print element within the image area of the printed substrate. For example, when printing images comprised of dots that are printed in accordance with the prior art, in a given image area, background color density is that of substrate color density. In contrast, when printing according to the present invention, background color density may be greater than that of substrate color density and less than that of print element color density.

....

As used herein, “microscopic color density variation” refers to the gradual variation in color density between a print element and the background surround the print element. This variation can be local in nature. [Emphasis added.]

The Specification states (page 14) that:

The color density of an image may be measured with a densitometer. Color density, a dimensionless measurement, refers to the density of the color produced by the ink. The higher the color density of the ink, the greater the intensity or strength of the color.

At page 4 of the Specification, “rub-off” is defined as “the transfer of color from the surface of a printed substrate to another surface.” At page 8 of the specification, “ink” is defined as “any composition or components thereof applied to the substrate and which remains [sic., remain] thereon in a visible pattern even though components of the ink may evaporate.”

## II. PRIOR ART

As evidence of unpatentability of the claimed subject matter, the Examiner relies upon the following references:

Mowry, Jr.	US 5,853,197	Dec. 29, 1998
Harris	US 5,871,615	Feb. 16, 1999
Brugada	US 5,904,375	May 18, 1999

## III. REJECTION

The appealed claims stand rejected as follows:

- 1) Claims 1 through 3, 5, 6, 8, 10, 12, 14, and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by the disclosure of Mowry, Jr.;
- 2) Claims 4, 7, and 9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Mowry, Jr. and Harris; and
- 3) Claims 1 through 3, 5, and 10 through 14 stand rejected under 35 U.S.C. § 102(b) as anticipated by the disclosure of Brugada.

#### IV. FACTUAL FINDINGS AND CONCLUSIONS

Upon careful consideration of the claims, specification and prior art references, including the arguments advanced by both the Appellant and the Examiner in support of their respective positions, we determine that the Examiner's §§102 (b) and 103(a) rejections are well-founded. Accordingly, we affirm the Examiner's decision rejecting claims 1 through 15 on appeal under §§102(b) and 103(a) for the reasons set forth in the Answer and below.

As evidence of anticipation of the subject matter defined by claims 1 through 3, 5, 6, 8, 10, 12, 14, and 15 under 35 U.S.C. § 102(b), the Examiner relies on the disclosure of Mowry, Jr. (*See Answer 3.*) There is no dispute that Mowry, Jr. teaches a printed substrate comprising a substrate having two opposing outer surfaces with at least one of the surfaces including indicia comprised of printed elements. The Appellant only argues that Mowry, Jr. does not teach that its substrate has printed matter having different color densities as recited in claims 1 and 5 and different rub-off properties as recited in claim 8. (Br. 3-6.) We do not agree.

Initially, we observe that the paper substrate described by Mowry, Jr. necessarily provides the claimed substrate color density which according to the Appellant includes "the color density of the unprinted areas of substrate" as indicated *supra*. We observe that Mowry, Jr. also teach a background printed matter having a color density corresponding to the claimed background color density and a security term having a color density corresponding to the claimed print element color density. See Figure 1, together with columns 4-6. Specifically, we find that Mowry, Jr. teaches

that the background printed matter shown to have a color density greater than the substrate color density is taught to have a different color density than the security term such that the security term can be made more noticeable. (*See* col. 6, ll. 19-40.) We find that Mowry, Jr. goes on to exemplify at column 6, lines 34-37, a density of 15% for the security term and 10% for the background printed matter, which are encompassed by the “microscopic color density variation” recited in claim 1 and the microscopic color density variation defined in terms of “color density ratio” recited in claim 5. We find that the security term described in Mowry, Jr. has a rub-off property necessarily significantly higher than that of the background printed matter as required by claim 8 since it cannot be rubbed-off from the security document if it is to be used for the security purposes. Moreover, as further explained by the Examiner (Answer 4-5), Figure 1 of Mowry, Jr. itself illustrates a security document having different color intensities for the security term and background element on a paper substrate as required by claims 1, 5, and 8.

Even were we to accept the Appellant’s arguments that the claimed printed paper does not include either the security document described or illustrated in Mowry, Jr., our conclusion would not be altered. We find that the claimed printed matter defined in terms of color densities or rub-off properties is not functionally related to the substrate involved. Indeed, the Appellant acknowledges that the claimed printed matter is used to impart only aesthetically pleasing characteristics (not functional characteristics). (*See* Specification 1 and 3). At page 3 of the Specification, the Appellant emphasizes that “[i]n order to enhance the aesthetics of absorbent disposable paper products, it is desirable to use pigment-based inks which produce

vibrant high color densities when applied to the absorbent disposable paper product.” As such, we determine that the claimed printed matter defined in terms of color densities or rub-off properties is not entitled to any patentable weight. The court in *In re Ngai*, 367 F.3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004) stated that:

As the *Gulack* court pointed out, “[w]here the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability.”

In view of the foregoing, we concur with the Examiner that Mowry, Jr. would have rendered the subject matter defined by claims 1 through 3, 5, 6, 8, 10, 12, 14, and 15 anticipated within the meaning of 35 U.S.C. §102(a).

As evidence of obviousness of the subject matter of claims 4, 7, and 9 under 35 U.S.C. 103(a), the Examiner further relies on the combined disclosures of Mowry, Jr. and Harris. The disclosure of Mowry, Jr. is discussed above. According to the Examiner (Answer 8-9), Mowry, Jr. does not teach the claimed texture substrate.

To remedy this deficiency, the Examiner relies on the disclosure of Harris. The Appellant does not dispute that Harris teaches employing a textured substrate to make a security document. (Br. 8-11). Nor does the Appellant contest the Examiner’s determination that it would have been obvious to employ the texture substrate of the type described in Harris to make the security document of the type taught in Mowry, Jr. *Id.* The Appellant only repeats the arguments directed to the limitations of claims 1, 5, and 8 discussed above. *Id.* Thus, for the reasons set forth above and in the Answer, we concur with the Examiner that the combined teachings of

Mowry, Jr. and Harris would have rendered the subject matter defined by claims 4, 7, and 9 obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103.

As evidence of anticipation of the subject matter defined by claims 1 through 3, 5, and 10 through 14 under 35 U.S.C. § 102(b), the Examiner relies on the disclosure of Brugada. There is no dispute that Brugada teaches a printed substrate. The Appellant only argues that Brugada does not teach that a printed substrate comprising printed matter having different color densities as required by claims 1 and 5 and rub-off properties as required by claims 13 and 14. (Br. 6-8.)

Even were we to accept the Appellant's arguments that the claimed printed paper does not include the security document described in Brugada, we do not agree that Brugada does not anticipate the claimed subject matter within the meaning of 35 U.S.C. §102(b). As indicated *supra*, we find that the claimed printed matter defined in terms of color densities or rub-off properties is not functionally related to the substrate involved. Indeed, at page 3 of the Specification, the Appellant states that "[i]n order to enhance the aesthetics of absorbent disposable paper products, it is desirable to use pigment-based inks which produce vibrant high color densities when applied to the absorbent disposable paper product." As such, we determine that the claimed printed matter defined in terms of color densities or rub-off properties is not entitled to any patentable weight. The court in *In re Ngai*, 367 F.3d 1336, 1338, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004) stated that:



As the *Gulack* court pointed out, “[w]here the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability.”

In view of the foregoing, we concur with the Examiner that Brugada would have rendered the subject matter defined by claims 1 through 3, 5, and 10 through 14 anticipated within the meaning of 35 U.S.C. §102(a).

#### V. CONCLUSION

The decision of the Examiner is affirmed.

#### VI. TIME PERIOD

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2005).

AFFIRMED

cam

The Procter & Gamble Company  
Intellectual Property Division  
Winton Hill Technical Center  
Box 161  
6110 Center Hill Avenue  
Cincinnati, OH 45224

Appeal 2006-1310  
Application 10/657,320

The Procter & Gamble Company  
Intellectual Property Division  
Winton Hill Technical Center  
Box 161  
6110 Center Hill Avenue  
Cincinnati, OH 45224